REMARKS

The allowability of claims 8 - 10 and 18 - 20 is acknowledged appreciatively.

A new Declaration is attached.

The drawing and specification are amended above a courteously suggested in the Action.

The objections to the claims that are not statutory and the rejections of the claims under 35 USC 112, second paragraph, are of the same formal nature to confirm that the attention to these above, again as courteously suggested in the Action, are not such narrowing changes as should invoke any Festo-like limitations.

The rejection of claims under 35 USC 102 for anticipation by the cited Gupta, et al. patent is traversed, any difference of the claimed invention sufficing. Moreover, this rejection should not be converted into one under 35 USC 103 for anticipation, because the present invention is also directed differently from the disclosure or suggestions of the Gupta, et al. patent.

In general terms, the present invention is directed to the problem of detected unbounded recursion in computer programs - see page 1 lines 5 to 24 of the specification. As indicated at page 9 penultimate paragraph of the specification, the invention involves the creation of hypothesis "that, if proven, ensure that recursion is bounded." In order to clarify this feature, claims 1 and 11 have been amended at line 2 to specify that it is checked whether the computer program segment is recursively bounded and have been amended in sub-paragraph c) thereof to .specify that the hypothesis is "for establishing that recursion through the path is bounded." The necessary basis is provided in tine above-mentioned passage at page 9, penultimate paragraph, together with the reference at page 10 lines:16 and 17 to "the

number of iterations of each loop" and "each: recursion cycle" being bounded.

As a minor point, please note that. we have deleted word "members" from sub-paragraph iv) line 2 of, claims 8 and. 18 in order to improve clarity.

Turning now from the Gupta citation, US 6,343,375, it will be noted from e.g. claim 1 thereof that this prior art teaching is concerned with preventing array references out of tire bounds of the array and identifying each array reference which refers to an address not within the bounds of the array as an invalid reference. Thus the arrays disclosed in Gupta are part of the program being analysed whereas the arrays of the present invention as claimed are populated with "expressions derived from functions of variables and/or paraameters of the program and the member at each position in the array represents a path through the cycle or loop" (see sub-paragraph 2) of claims 1and 11 and are thus a feature of the analysing system and method. They are used to establish bounded recursion (i.e. to eliminate unbounded or infinite recursion which would cause the program to crash in use). Thus the parameter which is "bounded" in the process and system of the present invention is the number of recursions whereas the "bounds" referred to in Gupta are array addresses outside the bounds of the (pre-existing) array in the program being tested.

Specifically, the Examiner maintains that claim 1 is anticipated by column 5 line 55 to column 6 line 4, column 6 lines 5 to 31 and column 10 lines 6 to 50. However the first of these passages discloses how array reference tests should be handled in the presence of loops. The Gupta patent uses the word "recursively" to describe how the method (the program analyser) should handle nested loops. Conversely the recursion referred to in the present invention as claimed is present in the program itself and is the subject rather than the tool of the analysis provided by the claimed process and system.

The passage at page 6 lines 5 to 31 is concerned with detecting violation of array references (see line 18) by loops running in the program and is not concerned with establishing whether "recursion through the path is bounded", still less by means of the creation of the hypothesis involving changes in value of members of an array when the corresponding path is traversed as specified in sub-paragraph c) of claims 1 and 11.

Similarly, the passage at column 10 lines 6 to 50 is concerned with array violations and not with decreases in the values of array members when a path is traversed in connection with detection of infinite recursion.

In view of the clear distinctions between claims 1 and 11 and the Gupta citation, it is submitted that the remaining objections to the dependent claims are moot.

Reconsideration and allowance are, therefore, requested.

Respectfully submitted,

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IN THE DRAWINGS

A Replacement Sheet with Figs. 1-3 labeled Prior Art is attached as required in the Action.